DOCUMENT RESUME

ED 242 620 SO 015 527

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TITLE Factors Influencing Performance among Primary and Secondary School Pupils in Western Province of Kenya: A Policy Study.
INSTITUTION Kenyatta Univ. College, Nairobi (Kenya). Bureau of Educational Research.
PUB DATE Feb 83
NOTE 57p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Ability Grouping; *Academic Achievement; *Academic Failure; Class Size; Comparative Education; Educational Administration; Educational Facilities; Educational Needs; Educational Research; Elementary Secondary Education; Environmental Influences; Homework; Leadership; *Low Achievement; Social Influences; Teacher Characteristics; Time on Task
IDENTIFIERS *Kenya

ABSTRACT

Analyses of the examination results for the Certificate of Primary Education, the Kenya Certificate of Education, and the Kenya Advanced Certificate of Education showed that academic achievement at the primary and secondary levels in the Western Province of Kenya is very poor, compared to the other provinces. To determine the school factors that may have caused this poor academic performance, questionnaires were sent to 170 secondary schools, to be completed by heads of the schools, teachers, and chairmen of Boards of Governors in the province. This was followed by interviews with a sample of teachers, former students, a few headmasters, and some persons prominent in the province. Discussed are the following factors which were found to affect achievement: streaming effect, large class size, poor school facilities, the lack of preparation or homework, the lack of sound and efficient leadership in the school administration, the inadequate amount of time allocated to teaching and learning, and teacher characteristics. Discussed briefly are other factors, including environmental and social factors affecting achievement. Suggestions for improvement are made. (RM)

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FACTORS INFLUENCING PERFORMANCE AMONG PRIMARY AND SECONDARY SCHOOL PUPILS IN WESTERN PROVINCE OF KENYA: A POLICY STUDY

by

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SP 015 527

February, 1983.

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FACTORS INFLUENCING ACADEMIC PERFORMANCE AMONG PRIMARY AND SECONDARY SCHOOL PUPILS IN WESTERN PROVINCE OF KENYA: A POLICY STUDY

by
George S. Eshiwani

Introduction:

The Western Province of Kenya is one of the most densely populated regions in the Republic of Kenya. According to the most recent population census (1979) there are nearly two million people living on 8,223 hectres of land. The population density is therefore 222 people per square kilometer. Out of this population 55 percent is below 18 years old. The region is endowed with good rainfall and sizeable tracts of land that is fertile. She produces such cash crops as coffee, tea, sugar and cotton. In recent years, there has been noteable improvement in the industrial sector through the establishment of white sugar industries at Mumias and at Nzoia and establishment of a paper factory at Webuye.

The quantitative expansion of education in the Province has been exponential. Figures I and II show Provincial and National enrolments at primary school level and secondary school level respectively. At the primary school level, the growth rate of enrolment in the Province was lower than the

national rate. However, in quantitative terms the Provincial enrolment was significant. The number of pupils who attended primary school in the Province in 1964 was 164,180. This number increased to 569,245 pupils in 1980. The corresponding number of primary schools during the same period was 800 schools in 1964 rising to 1,412 schools in 1981. At the secondary school level,enrolment rose from 2,592 pupils in 1964 to 58,600 pupils in 1980. The number of secondary schools rose from 22 schools in 1964 to nearly 300 schools in 1980. These figures represent a very high rate of development both in the number of schools and in the number of children attending school in the Province. The data also implies that residents of Western Province, as it is elsewhere in the Republic, consider education to be a key factor in development, and that is why they have invested in it heavily.

In recent years there has been a major concern among educationists and laymen about the qualitative aspects of education in Western Kenya in general and in Western Province in particular. The local newspapers have highlited some of these concerrs (e.g. Daily Nation - February 12th, 1979, Sunday Nation - February 18th, 1979; Standard - March 30, 1979; KNA - March 30, 1979; Standard - February 2nd 1979- Standard - March 29, 1980; Sunday Standard - May 12, 1979; Standard - January

23rd, 1980; Daily Nation - February 17, 1982). In general it has been argued that academic standards in Western Province have been on the decline for the past seven years. A senior politician in the Province has observed:

> "In 1981, the performance of secondary schools in Western Province was so dismal that the total number of first Division students in the whole Province was less than that of a single school in Central Province".

In 1979 two residents of the Province pointed out that "the total entry to the University of Nairobi in 1977 from Western Province could not equal the entry from one of the established schools elsewhere in the country".

The Kenya National Union of teachers has been concerned with the poor performance at the primary school level. The Union has called upon "leaders, politicians, educators and administrators in Western Province to find a lasting solution to the poor examination results in the Province".

Purpose of the study:

The purpose of this study was to find out if academic achievement in Western Province of Kenya was

decline as it has been publicly claimed and to analyse some of the key policy issues related to achievement.

Why Bother?

Democritization of education is one of the major aims of education in any country. This involves equalising educational access and equalisation of educational attainment. If any region of the country lags behind either in the number of pupils who attend school or in the number of pupils who pass important national examinations, then that region cannot effectively participate in the democritization of education. The socio-economic development of such a region is likely to be retarded. In order to have improved health facilities, there must be trained health persons; improved agriculture demands that there be trained agricultural extension workers; expansion in the industrial sectors requires trained technicians; venture into commerce demands certain basic skills and training. Western Province cannot hope to develop if the youth in the Province lack the necessary background for training in these fields.

Theoretical Framework:

Research exploring why some children learn more in school than others (and achieve better

FIG 1

TRENDS OF PRIMARY SCHOOL ENROLMENT IN KENYA 1968 - 1980: NATIONAL AND WESTERN PROVINCE

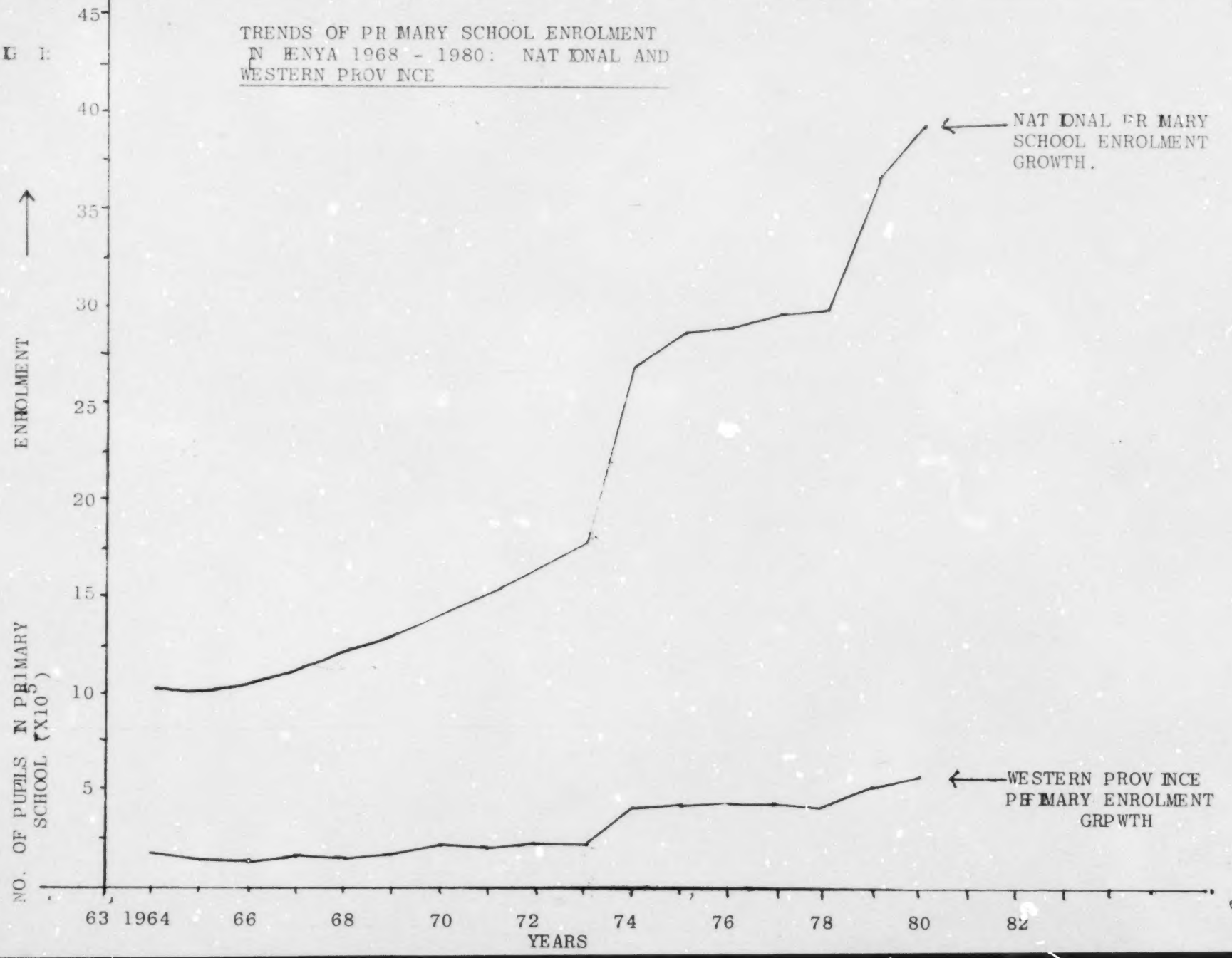

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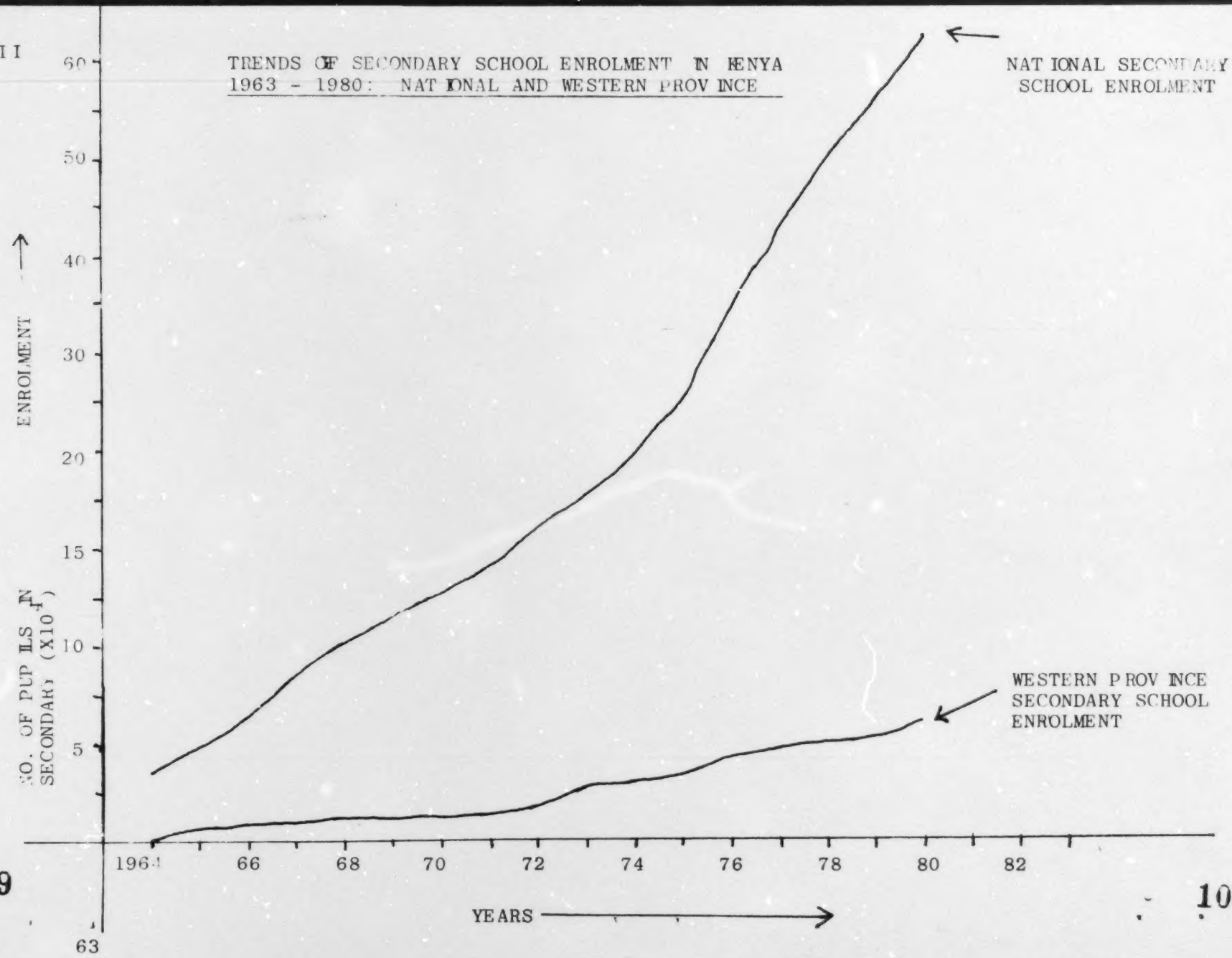
FIG: II

TRENDS OF SECONDARY SCHOOL ENROLMENT IN KENYA
1963 - 1980: NATIONAL AND WESTERN PROVINCE



than others) has revealed three theoretically important determinants: school resources and processes, teacher characteristics and students traits. In their review of research on the determinants of school achievement in the third world countries, Schiefelbein and Simmons (1981), and Eshiwani (1982) have identified the following policy - related factors that may cause poor academic performance: (i) School resources and processes: class size, textbooks, school administration and management (Board of Governors), library and laboratory facilities. (ii) Teacher characteristics: teacher certification, experience, training, teacher pupil ratio, professional commitment and transfer index.
(iii) Students traits: pre-primary education, primary education and social characteristics.

Procedure:

Data for this study was obtained from four sources: secondary school Headmasters in Western Province, secondary school teachers who had taught Form IV and VI in schools in Western Province for a minimum of three years in the same school, Chairmen of Boards of Governors in the Province, the Kenya Examination Council, a selected sample of leaders who had links with education, excerpts from readers letters to the editor in the local dailies and from official annual reports of the Ministries of education.

Questionnaires were sent to 170 secondary schools through the Provincial Education Officer to be completed by Heads of schools, teachers and Chairmen of Boards of Governors. This was followed by interviews with a sample of teachers, some former students / various /from schools in the province who were studying at the University of Nairobi, a few headmasters and some prominent people from the province. Broadly speaking we sought information about the schools resources and processes, students traits and teachers characteristics. We received very good co-operation from all persons and institutions we contacted. I am very grateful to them all. Without them the information assembled in this paper would perhaps not have seen the light.

Results:

1. School Achievement:

Examination results were analysed for the Certificate of Primary Education (terminal examination at the end of primary school), the Kenya Certificate of Education (O-level) and the Kenya Advanced Certificate of Education (A-level) which is taken at the end of Form VI.

a) Achievement at the CPE level:

At the CPE level we analysed the mean standard scores for each province for the years 1976 to 1981 to determine the performance of Western Province in relation to other provinces. Table I gives the mean scores while Figure II shows the Provincial positions based on these scores for the years 1976 - 1981.

TABLE I

MEAN STANDARD SCORES PER PROVINCE

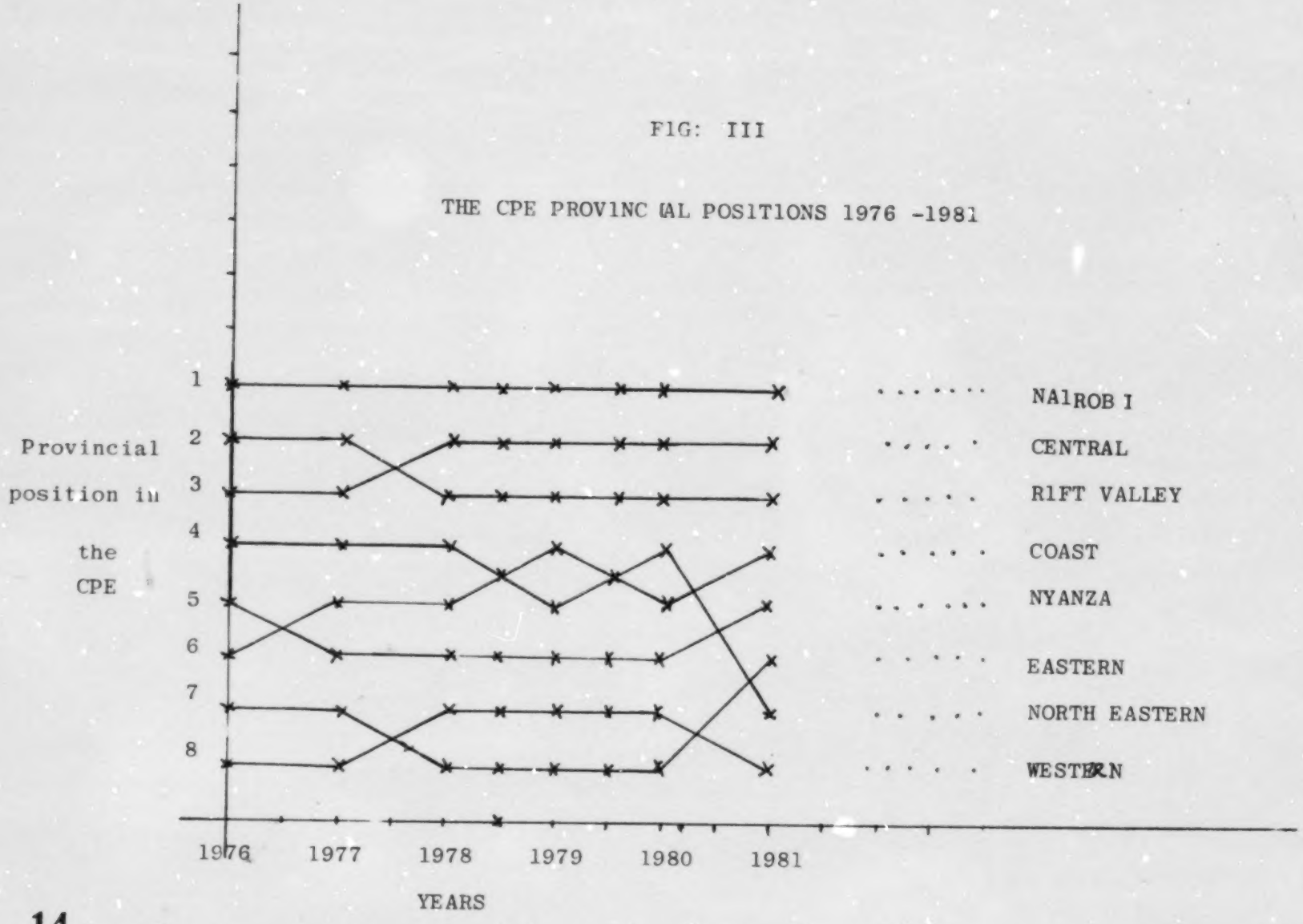
1976 - 1981

Province	1976	1977	1978	1979	1980	1981
Coast	148.69	151.65	151.76	151.72	149.48	150.04
Central	153.25	157.08	159.87	160.95	159.78	158.04
Nairobi	165.97	174.34	175.22	172.62	171.41	166.17
Eastern	143.48	140.68	138.24	138.00	141.95	144.26
Rift Valley	158.85	159.21	157.03	155.20	153.52	151.69
Western	139.82	137.97	138.47	140.11	141.96	142.38
Nyanza	149.55	147.01	145.56	145.90	145.30	146.81
North Eastern	151.44	153.73	156.23	150.73	150.66	143.12
National mean scores	150.0	150.0	150.0	150.0	150.0	150.1

Source The CPE Newsletter: Kenya National Examination Council.

FIG: III

THE CPE PROVINCIAL POSITIONS 1976 -1981

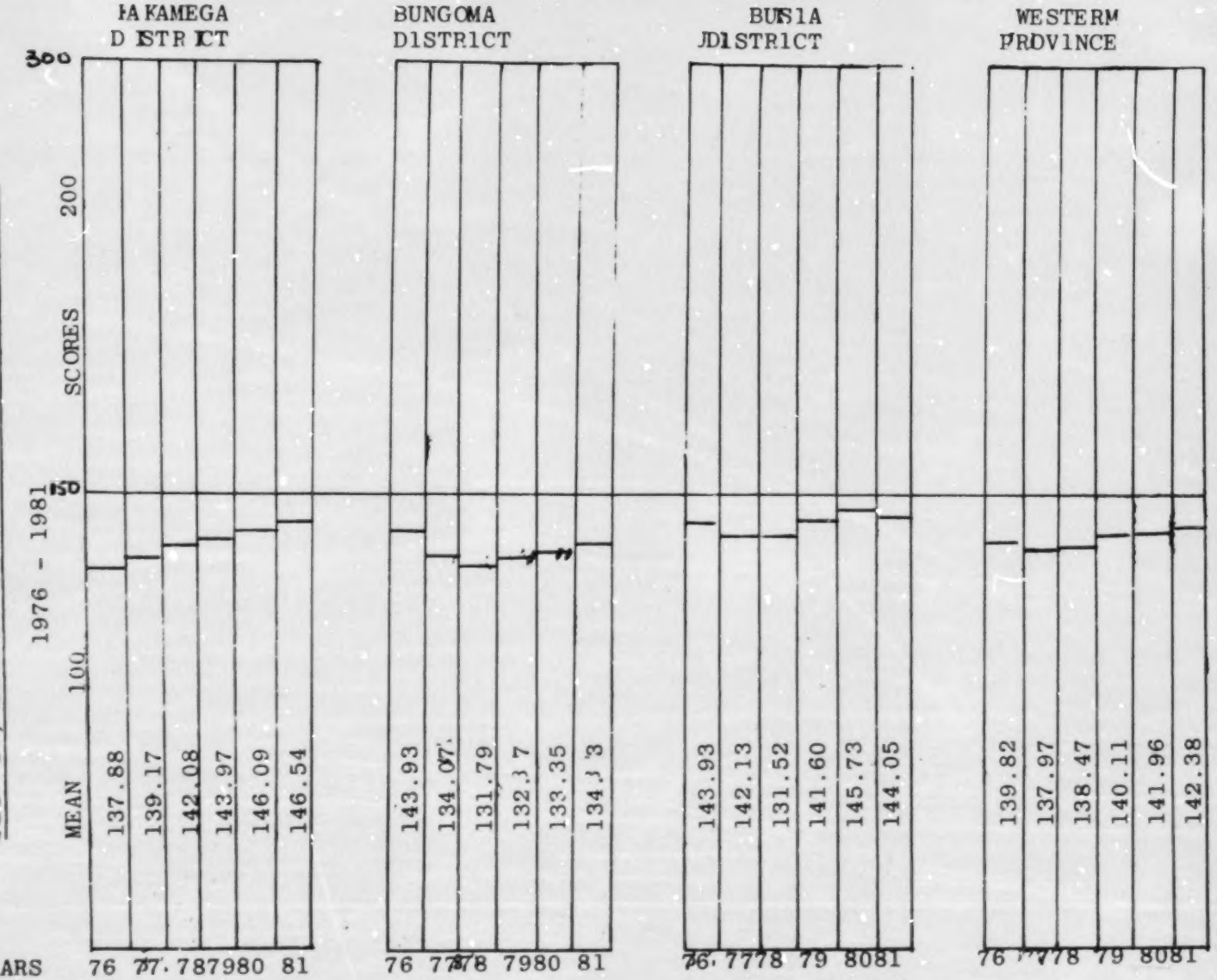


Several conclusions can be drawn from the information in Table I and in Figure III. First, the scores for Western Province have been consistently below the national mean score of 150.0 marks in the last seven years. The Province has only managed a mean score of between 137.97 in 1977 and 143.38 in 1981. When this is compared with mean scores of other Provinces such as Nairobi, Central, and Rift Valley, it shows clearly that achievement in the CPE in Western Province is below average.

Secondly, the graphical representation of Provincial positions in the CPE shows that between 1976 to 1981, Western Province has consistently occupied the last position or the second last position. The best performance was between 1978 and 1980 when the Province was number seven out of eight Provinces!

Further analysis of performance at the CPE level in Western Province was in relation to the districts. Figure IV shows the mean score for the three districts: Kakamega, Bungoma, and Busia, for the years 1976 to 1981. There are several points that can be infered from this chart. First, Kakamega has been improving while Bungoma has been deteriorating. Other than 1978, Busia has been consistent

FIG 1V, SHOWING CPE PERFORMANCE BY DISTRICT 1976 - 1981



SOURCE: WESTERN PROVINCE PROVINCIAL BASIC EDUCATION OFFICE ANNUAL REPORT 1981 P26

in its performance. Secondly, all the three districts have consistently been below the mean standard score of 150 marks. This implies that if selection for Form One were to be done nationally, more than 40 per cent of the secondary school places in the Province would probarbly be taken up by children from other Provinces.

b) Achievement at the O-level (Kenya Certificate of Education.

The Kenya Certificate of Education is taken at the end of fourth year of secondary school education. This is a very important examination because it is the gate to many avenues either for higher education or employment. While performance in the CPE may not affect the number of pupils who join secondary school (selection for secondary school places is largely provincial), performance at the KCE level is crucial for those pupils who want to go on with further studies, or to enter various training institutions, or to be employed. Selection for these institutions and/or employment is national. Those who perform poorly in the KCE cannot compete effectively for the few opportunities that exist in these institutions. Bearing this in mind I set out to examine the performance of Western Province in the KCE in relation to other provinces.

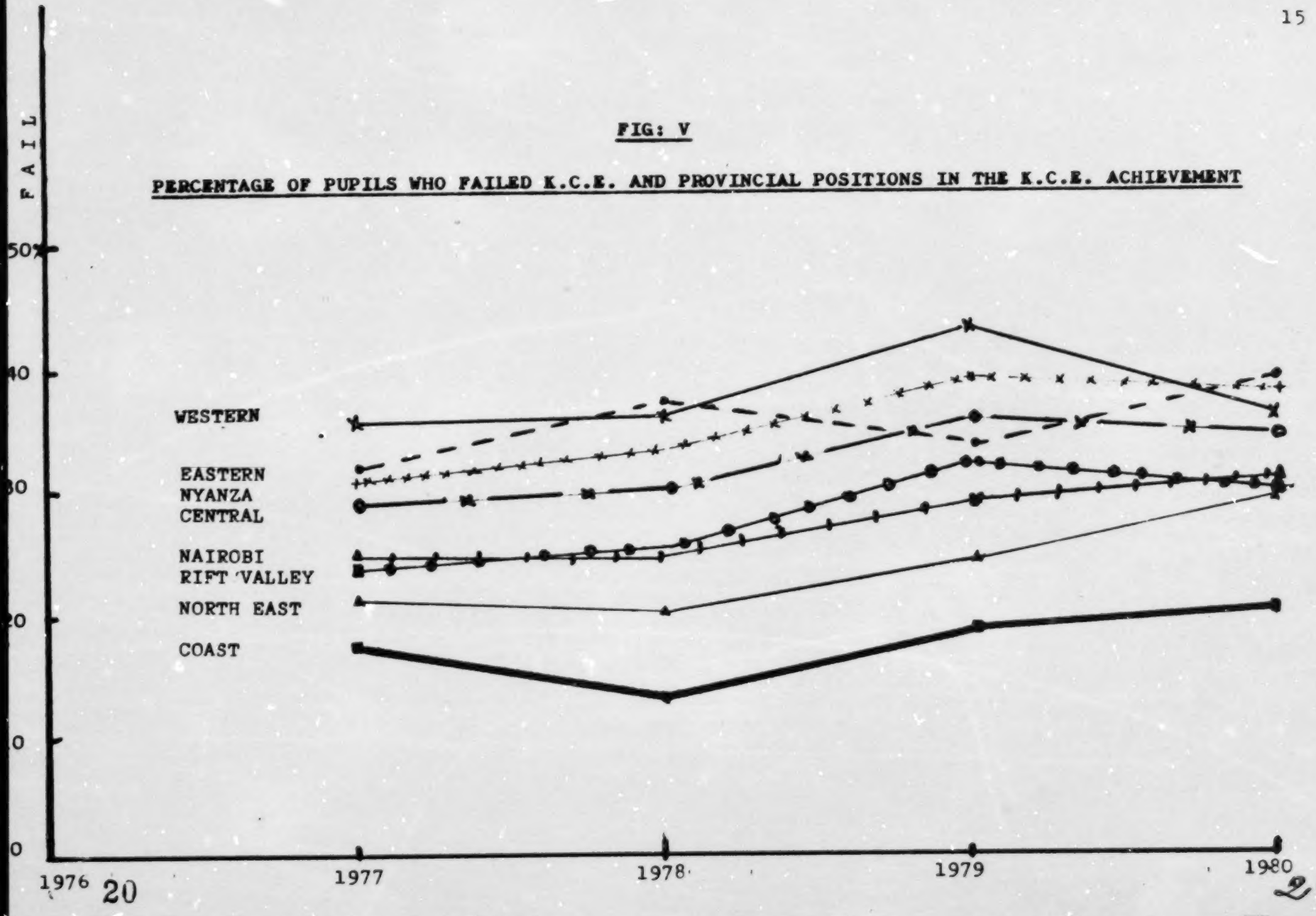
Figure V shows the percentage of pupils who failed KCE by province and subsquently the provincial positions in the KCE performance for the years 1976 to 1981. The data we collected for this study indicates that school achievement at the KCE level in Western Province has been one of the poorest in the Republic for the last seven years. Figure V shows that the Province has had the greatest number of failures in the last seven years. Between 1977 and 1980 13,818 pupils out of 36,381 candidates failed the KCE examination. This represents 38 percent of the pupils who sat the KCE examination in Western Province during that period. A near 40 percent failure rate for any Province in such an important examination as the KCE is catastrophical.

When compared to other Provinces, Western Province has not done any better. The Province has either been last or second last. The best performance was in 1980 when she was number six. A detailed analysis of this follows in the paragraphs.

In 1977 Western Province recorded the highest number of failures followed by Nyanza and Eastern Province. Out of 7,912 candidates who sat for examination that year in the Province, 2,841 candidates (36%) failed. This failure rate was higher than the national average.

FIG: V

PERCENTAGE OF PUPILS WHO FAILED K.C.E. AND PROVINCIAL POSITIONS IN THE K.C.E. ACHIEVEMENT



In 1978, the average performance for the Province improved slightly, but despite this she was among the worst three Provinces. Nyanza province was the worst followed closely by Western and then by Eastern Province. Performance in the three provinces was below the national average. Out of 8,442 candidates who sat for the KCE examination in the Province, 3,078 candidates were outright failures. This made up 36 per cent of the candidates.

1979 was one of the blackest years in Western Secondary education. Not only did the province achieve lower than all the Provinces in the Republic, but it was far below the national average. Figure V shows that the worst achievement in O-level that year was recorded in Western Province followed by Eastern Province. Out of 9,650 candidates who sat for the examination, 4,179 failed. This means tha 43 per cent of the O-level candidates in the province failed.

The pattern for 1980 figures was / different from /not that of the previous years. Figure V shows that Nyanza Province followed by Eastern Province and Western Province respectively had the poorest results. Again the performance in Western Province was below the national average. The number of candidates who sat for

examination that year was 10,274. Out of this number 3,716 candidates failed comprising of 36 per cent.

Performance in the 1981 and 1982 KCE examinations has not been any better than it was in the previous years. No single school in the Province has been among the top twenty schools in the country in the two years. In order to examine this point in further detail/ analysed the KCE /I results of all the schools in the Province that achieved a minimum pass of division 4 (there are five divisions in the KCE: division 1,2,3,4, and fail). Out of 286 schools only 110 schools received at least the minimum achievement (division 4) in the KCE (96 schools in Kakamega, 6 in Bungoma and 8 in Busia). Table II shows the distribution of the candidates from these schools. Several conclusions can be drawn from the data in Table II.

First, if we use the 1980 enrolment in the KCE as the baseline data,and assume that all the pupils in the schools that were not graded failed then the total number of pupils who failed KCE in the Province in 1982 was at least 4,447. This means that the percentage of pupils who failed KCE in Western Province in 1982 was not less than 43.3 percent.

Secondly, table II shows that of the graded schools in the Province only 1.9 per cent of the candidates obtained division one, 11.2 per cent obtained division two, 26.1 per cent obtained division three, 34.9 per cent obtained

TABLE II

THE DISTRIBUTION OF THE CANDIDATES IN THE SCHOOLS THAT RECEIVED MINIMUM PASS GRADE (DIVISION 4) IN THE 1982 KCE IN WESTERN PROVINCE.

District		Division in the KCE				
		1	2	3	4	Fail
Kakamega	No. of candidates	103	681	1578	2248	1799
	percent.	1.6	10.6	24.6	35.0	28.0
Bungoma	No.of candidates	35	132	290	238	54
	percent	4.6	17.6	38.7	31.7	7.2
Busia	No.of candidates	12	68	187	255	173
	percent	1.7	9.7	26.9	36.6	24.8
Overall Province	No.of candidates	150	881	2055	2741	2026
	percent	1.9	11.2	26.1	34.9	25.7
Results of one national school (the first in 1982 KCE).	No.of candidates	86	17	5	0	0
	Percent	79.6	15.7	4.7	0	0

Source: The Kenya National Examination Council.

division four and 25.7 per cent failed. It is important to note that only 39.2 per cent of the candidates in the Province obtained division one to three. This implies that more than 60 per cent of the KCE candidates in Western Province either failed or received division four. When these results are compared with the results of the school that topped the country, they show that performance at the KCE in Western Province is disastrous. While the best school had 79.6 of its pupils in division one, the whole province could hardly manage two percent.

2. Factors influencing Achievement:

It is evident from the discussion in the preceding paragraphs that academic or cognitive achievement in the Western Province of Kenya is very poor compared to other provinces. This is true both at primary level and at the secondary level. It should be born in mind that comparisons of achievement between provinces or regions is relative. For/reason , it can be argued that the discussion/this concerning factors that affect academic achievement in Western Province of Kenya could very well apply to other areas either in Kenya or elsewhere in Africa.

Factors that influence achievement fall under two major categories: social and environmental factors, and school factors. The major focus of this study was on school factors.

The discussion of my results in this section will concentrate on the school factors. Illustrations will emphasize factors at the secondary school, although reference will be made to the primary school from time to me.

a) Streaming Effect:

Most schools in Western Province practice some form of streaming. Many schools (75%) stream their pupils on the basis of academic performance at the CPE or on the basis of performance in mathematics at the end of second year in the secondary school. Nearly all primary schools group their pupils by academic ability. Whatever the motives for doing this, the effect on achievement is that the gap between the highest achievers and lower achievers increases. The effect is more pronounced at the secondary school than at the primary school. Due to the poor performance in the CPE, the proportion of students who join secondary schools in the Province with low points is greater than the proportion of the students with high points. When the students are then grouped on the basis of their CPE results, not only is the gap between the "better" students and the "poorer" students widened, but the number of students expected to do well in the Kenya Certificate of Education is predictably low.

The most serious policy issue related to this question of streaming is the "Harambee streams" attached to other classes in the Government maintained schools. Due to the tremendous demand for education in the Province, it was decided in the early 1970s to attach "extra" streams to the existing streams in the Government maintained schools. These attached streams (Harambee streams) were to be financed on self-help basis. It was assumed that this approach would provide quality education to more children in the Province at lower cost than was the case in the full fledged Harambee/Private schools. Headmasters were given a free hand in the selection of students for these streams. They employed teachers through their Boards for teaching the students in the attached streams. Both the students and the teachers selected in the attached streams were generally of low academic quality. Lack of a definite policy on the students and the teachers for the Harambee streams did not help the situation. The teachers and the students contributed tremendously in the lowering of academic standards in most of the Government maintained schools. Some of the schools which had gained national reputation in academic work (e.g. Kakamega High School and Butere Girls School) started to sink. They have barely managed to keep their heads above water.

Since the students who should have gone to the "normal" Harambee/Private schools were absorbed in the Government maintained schools, it follows that the quality of the students intake in the Harambee/Private schools was much poorer than it should have been if there were no "attached" classes in the maintained schools. Consequently performance in the Harambee/Private schools is deplorable. In the 1982 Kenya Certificate of Education one Private school entered 90 candidates. Of these four candidates obtained division three, 15 division four and 66 candidates failed.

b) Class size:

The optimal number of students per class is a very important educational issue because of its cost implications. In this study I was concerned with the effect of class size on student achievement. I found that most schools in the Province had more than 40 pupils per class despite the Government ceiling of 40. Where the class size had been expanded by one or two students, there was no significant effect on the academic achievement. However, where the numbers were blown up by as much as 20 percent, this tended to have a negative effect on the students achievement.

A related question concerns the relationship between cost per student and student achievement. Many schools in the Province charge exhorbitant "fees". There is a great variation in the school fees from one school to

another. In the absence of any official explanation, I assumed that one reason for charging high fees was to raise cost per student and consequently raise achievement. I found that although the cost per student in some schools in the Province was higher than the cost per student in some of the "best" National schools, achievement in these provincial schools was below national average. The relation between higher expenditure per student and higher student achievement was very low.

c) School facilities including equipment

The evidence from research in other parts of the world (see Postlethwaite, 1980) points to the great importance of school facilities. Differences in school facilities would seem to account for differences in achievement. Such facilities include the library, textbooks, laboratories, dometries, visual aids, electricity and water, playing fields etc.

I asked the teachers and headmasters who participated in this study to indicate the school in the Province with the best facilities and equipment. The following schools were rated as having the best facilities and equipment: Kakamega High School, Mukumu Girls school, Bunyore Girls school, Friends School Kamusinga, Butere Girls School and Musingu High school.

Analysis of the Kenya Certificate of Education results over the last five years show that the schools mentioned above have been among the top ten in the Province during that period. Table III shows the percentage of students who obtained division one and two in the KCE of 1982 in these schools. This analysis points to the fact that the presence or absence of school facilities distinguish high achieving from low achieving schools.

TABLE III

PROPORTION OF STUDENTS WHO OBTAINED DIVISION I & II IN THE KENYA CERTIFICATE EXAMINATION (1982) IN THE TOP FIVE SCHOOLS IN WESTERN PROVINCE*

SCHOOL	Total No.of candidates	No. of candidates with Division I and II	Percentage
Bunyore Girls	108	55	50.9
Kakamega High	148	68	45.9
Musingu	169	69	40.8
Butere Girls	179	61	34.1
Kamusinga	173	40	21.1

*These schools had at least ten candidates in division one KCE.

In order to determine the quality and quantity of the school facilities, we asked the Headmasters and the teachers to rate their schools in comparison with the "best"

school in the Province. The results are summarised in Table IV. Nearly 80 percent (78.1%) rated their classrooms average and above average. This can be explained by the Harambee efforts that have characterised the construction of classrooms in the past two decades. The next significant facility rated high was "playing fields" - 57.8 percent of the schools rated their playing fields as either average or above average. While this facility may be important in the out-of-class curricula, it is of less importance in the academic achievement. Libraries, laboratories. Domitories, school Hall, Textbooks, teaching materials, electricity and staff houses were rated as being below average. The school hall is an important socializing centre in any school, especially in a boarding school. It is therefore disturbing to note that 65.6 per cent of the schools in the Province do not have anything they can call a school hall. Related directly to achievement is the whole area/teaching materials, /of laboratories and textbooks. Most schools were terribly deficient in these areas: 51.6 per cent of the schools did not have visual aids, nearly 50 per cent of them did not have electricity supply, 78.2 per cent either had no laboratories or below average laboratories,over 40 per cent of the schools had below average textbooks. Lack of these facilities could be a major contribution to the poor performance in the secondary schools in Western Province.

TABLE IV

Percentage of schools in Western Province with various school facilities.

Facility	Above average	Average	Below Average	Does not exist.
Library**	0	12.5	46.9	35.9
Classrooms*	7.8	70.3	15.6	4.7
Laboratories**	4.7	14.1	51.6	26.6
Dormitories**	1.6	31.3	42.2	20.3
School Hall**	1.6	9.4	12.5	65.6
Textbooks**	6.2	32.8	40.6	14.1
Teaching materials** (visual aids)	3.1	34.4	7.8	51.6
Availability of tap water*	12.5	42.2	21.9	20.3
Availability of electricity**	14.1	25.0	7.8	48.4
Playing fields*	3.1	54.7	32.8	4.7
Staff houses**	6.2	35.9	46.9	7.8

*Above Average

**Below Average.

It was pointed out to me by several Headmasters and administrators that one explanation why facilities and equipment was so poor in Western Province schools was the inequality in the distribution of physical development funds between different regions.

d) Prep/Homework:

Schiefelbein and Simmons (1981) have shown in their review of research on determinants of school achievement that there is a high correlation between the out-of-class academic work and achievement. In the Kenyan context, this work is often refered to as prep in most boarding schools and homework in the day schools. Sometimes the two terminologies are used interchangebly. In this study I did not attach any special meaning to the two terms. I was mainly concerned with the way the academic work outside the normal class-time was organized. In general we found that this was one area in the school organization in Western Province that was very poor. Over 60 per cent of the schools had no formal prep or homework assignment given to the pupils. Although "prep" appears on the timetables, pupils are left to do what they like. Headmasters do not check on their teachers to make sure they set assignments for prep/homework. In other words, prep/homework is not taken seriously either by pupils or by teachers in most schools in Western Province. This is in contrast to other schools elsewhere in Kenya where prep/homework is taken as an integral part of the teaching/learning process. Here is a variable which is "virtually costless in terms of money" but which seems to provide a high return in terms of achievement.

e) School Administration

School administration may seem to be remotely related to achievement. However, a closer examination of schools which consistently perform well will reveal that these are schools with sound and efficient leadership. This type of leadership was found to be missing in many schools in Western Province. Teachers and several chairmen of Board of Governors of schools described a good proportion of Head teachers as incompetent. Examples were given of Headmasters who were heavily engaged in their own business in the locality and who spent long periods away from their schools (presumably on their personal business). There were also examples of very dedicated Headmasters and Headmistresses. These are the Heads whose schools showed glimpses of good performance in the public examinations. The Minister of Higher Education, (The Standard, 29th March, 1982 and The Sunday Standard, 5th December, 1979) underlined the importance of sound administration for improved academic achievement when he said:

> "the basic reason why some schools performed better than others in examinations was that while some Head Teachers organized the learning process for their pupils, others leave it to chance".

He further claimed that poor administration of the secondary schools in Western Province was due to the following factors:

i) incompetence on the part of some headmasters,
ii) absentism by some headmasters and
iii) parachialism.

In addition to the above administrative factors, I observed a disturbing trend in several schools (including some well established ones) in which Head teachers are basically administrators. They do not teach. I find this to be an extremely dangerous trend in education. The country cannot afford arm-chair head teachers who do not know what goes on in the classroom.

Some Head teachers gave me the impression that they are so much concerned with "ugali na sukuma wiki (bread and butter)" aspects of their administration that they have little time and energy left over for academic matters, leave alone teaching. This was confirmed by one teacher in a senior school who said:

> "An examination of minutes of the staff meetings of this school quickly shows that the amount of time spent on the activities of teaching and learning are <u>minimal</u> although these are meant to

be the main activities undertaken by the school".

This statement is a serious indictment of the school administration especially in relation to academic achievement.

School administration is directly linked to the Provincial Education administration. There were numerous criticisms against the PEO administration in Western Province. These ranged from complete negligence of professional matters by the Provincial office to lack of seriousness in the raising of standards in the Province. Many Headmasters pointed out that inspection of schools in the Province was generally poor. There has been change in personnel at the PEO's office since data for this study was collected. It is hoped that the administrative shortcomings cited by head teachers and teachers at the Provincial office has now been rectified.

One final point on school administration concerns the "interference" of politicians and church leaders in the schools. Headmasters complained that schools are often battle grounds for those with either political ambitions or religious leadership. This affects the smooth running of the schools and has a tremendous impact

on the schools' performance. Examples were cited of schools which were among the top ten percent nationally in the 1960s but which have deteriorated greatly as a result of political or religious in-fighting.

f) Time allocated to teaching and learning

The number of hours of schooling an individual child receives per year is an important variable in education. If these hours are multiplied by the number of years the child is at school then the variable takes on a very significant role in achievement. Comber and Keeves (1973) have observed that within limits, the more hours allowed to instruction in a subject, the higher the achievement. Similarly, at the end of secondary school the more homework given and corrected, the higher the achievement. I have already discussed aspects related to homework. In this section I will discuss the time allocated and used for classroom instruction.

Both Ministries of Basic and Higher Education decide in advance when schools should open and close. However, secondary schools seem to have some latitude in deciding how much time should be devoted to instruction. For example the time spent on internal examinations vary from school to school. While some schools take one week

for their examinations others take two weeks or more. Similarly, while some schools have examinations at the end of every term others have only one major examination at the end of the year. 62.5 per cent of the schools have internal examination at the end of every term; 32.8% have internal exams twice a year while only 3.1% have internal exams once a year. This means that in the majority of schools valuable instructional time is lost through examinations. Moreover, these examinations are neither well set and moderated nor marked with the seriousness they deserve. Less than 40 per cent of Headmasters insist on high standards in the internal exams.

Perhaps the largest wastage in the teaching time in secondary schools in Western Province occurs at the start of each term - over problems associated with collection of fees, and at the end of terms due to Headsmters' deliberate closure of their schools, often a week or more before the official end of term. I found that this affects the actual amount of teaching done in a significant number of secondary schools in the Province. It is predictable that there exists a positive relationship between this factor and achievement.

g) Teachers' Characteristics:

One of the main explanations put forward by some educators and laymen alike on the poor academic achievement in Western Province has been the lack of qualified teachers. I examined this hypothesis by looking at the following teachers' characteristics within the Province:

i) Their qualifications,
ii) Their turn-over (transfers),
iii) The teacher/pupil ration.

I will now discuss my findings on each of these aspects.

i) Teacher qualification:-

Qualifications of teachers in Western Province was analysed at two levels: the secondary school level and the primary school level. Table V shows the total number of teachers at secondary school in the Province while Table VI shows the number of primary school teachers.

Several conclusions can be drawn from Table V. First, the number of secondary school teachers has more than doubled since 1975. This is because of the rise in the number of secondary schools that has taken place during

that period (see Fig.II). Secondly, the increase in the numbers of untrained teachers has far exceded that of trained teachers. While in 1975 the percentage of untrained teachers teaching in secondary schools in Western Province was 44.61, this is now over 60%. The proportion of untrained teachers in the Province is over and above the national average. The implications of this on academic achievement is great.

Table VI shows that the number of primary school teachers has risen from 4,360 in 1964 to 15,369 teachers in 1981. The most interesting observation in connection with these figures is the enormous rise in the number of untrained teachers. In 1964, Western Province had only 765 untrained teachers out of 4118 teachers. In 1980, there were 5,621 untrained teachers in the Province out of a teaching force of 14,360 teachers. Up to 1973, the proportion of untrained teachers in the Province was below the national average. However, from 1974 upto 1982, the percentage of untrained teachers in the Province has consistently been in the region of 40 percent. This is above the national average which is in about 30%. It is safe to speculate that the poor performance at the CPE level in the Province could partially be due to this high proportion of untrained teachers.

TABLE V

Number of secondary school Teachers in Western Province 1975 - 1978.

Year	Total No.of teachers.	No.of qualified teachers.	No.of untrained teachers.	% age of untrained teachers (Nationally)	% age of untrained teachers in the Province.
1975	1170	648	522	32.50	44.61
1976	1596	663	933	43.52	58.45
1977	1829	666	1163	47.01	63.59
1978	2108	820	1288	48.57	61.10

Note: Although reliable data was not available for the years 1979-1981 it is assumed that the figures for these years did not change significantly from those shown above.

TABLE VI

Number of Primary school teachers in Western Province 1966 - 1981.

Year	Total No. of Teachers	No.of qualified teachers.	No.of untrained teachers.	% age of untrained teachers (Nationally)	% age of UTs in the Province.
1966	4118	3353	765	30.48	18.56
1967	4073	3638	435	29.78	10.69
1968	4373	4038	356	27.53	8.14
1969	4308	4237	71	21.70	1.65
1970	4778	4691	87	20.61	1.82
1971	5757	4980	777	23.85	13.50
1972	6568	5484	1084	22.30	16.50
1973	7028	5680	1348	22.32	19.18
1974	10909	6383	4526	36.45	41.99
1975	12464	6985	5479	36.33	43.96
1976	13003	7241	5507	36.97	42.35
1977	13039	7712	5327	33.56	40.90
1978	13377	8415	4962	30.57	37.10
1980	14360	8739	5621	-	39.14
1981	15369	10137	5232	-	34.04

It is not enough to analyse teachers qualifications purely in terms of training. For this reason, I analysed the academic qualifications of secondary school teachers in 171 schools. I found that 25.2 percent of the teachers were trained graduates, 8.8 per cent had a diploma in education, 27.9 per cent had the S1 qualification (a post-form-4 teaching certificate). The rest were either graduates with no teaching credentials or Form IV and Form VI leavers.

ii) Teacher Turnover:

No study has been carried out in Kenya in the recent past years on teachers turnover. Two studies reported by Schiefelbein and Simmons show that the higher the teacher turnover the lower the academic achievement among the pupils. In Kenya, the teacher turnover may be defined in terms of teacher transfer or in terms of teachers who leave teaching. In this study I was concerned with the former. According to the Heads of schools in Western Province the frequency of teacher transfer is very high. Fifty three per cent of the schools loose one teacher every term through transfers, while 20 percent of the schools loose at least two teachers every term. Because of this,

over 80 per cent of secondary school teachers in the Province have been to at least two schools in the last five years. This means that these teachers have not been able to take a class from form one to form four. It is worth noting here that schools that have mainteined high records of academic achievement are those with less teacher turnover.

iii) Teacher/Pupil Ratio

Table VII shows the teacher/pupil ratio at national level and in Western Province. The gaps shown in the Table represent data that was not available to me. I have analysed the data for the primary school as well as the secondary school.

From 1966 to 1973 the teacher/pupil ratio in Western Province was much lower than the national mean. For example in 1967 the national average was 30 pupils per teacher in the Primary school while in Western Province it was 11 pupils per teacher; in 1973 the indices were 22 and 19 respectively. However, from 1974 the ratio for the Province suddenly became higher than the national ratio. In 1976, while the national teacher/pupil ratio was 37, in Western Province it was 42. This has been the trend for the last nine years. Similarly, at the secondary school

TABLE VII

The teacher/students ratio at secondary school and primary school 1964 - 1980.

Year	PRIMARY		SECONDARY	
	National percent	Western Province Percent	National Percent	Western Province per cent
1964	-	-	-	-
1965	-	-	-	-
1966	30.48	18.58	-	-
1967	29.78	10.69	-	-
1968	27.52	8.14	-	-
1969	21.70	1.64	37.90	26.77
1970	20.61	1.82	-	-
1971	23.85	13.50	-	-
1972	22.30	16.50	-	-
1973	22.32	19.18	-	-
1974	33.45	41.49	-	-
1975	36.33	43.90	32.50	44.61
1976	36.97	42.3	43.52	58.45
1977	33.56	40.0	47.01	63.59
1978	30.57	37.10	48.57	61.10
1979	-	-	-	-
1980	-	-	-	-

level the teacher/pupil ratio is alarming. In 1978 it was 61 compared to the national ratio of 49. These figures have far reaching policy implications as well as effect on academic achievement.

Teachers operating in a situation where teacher/pupil ratio is high would be expected to be overworked. On the contrary, I was very surprised to find that in fact / teachers teaching in secondary schools in /many Western Province do not work as hard as their counterparts in other provinces where the teacher/pupil ratios are much lower. One teacher who had been transfered from a well-known school in Nairobi to an equally well known school in Western Province said:

> "I feel like under-employed here. Teachers in this school do not plan, they do not mark students' work regularly and they are generally ignorant of syllabus changes and requirements".

Eshiwani et al (1981) found that science teachers in general do not plan for their teaching. This was most evident in Western Province. In schools where

teachers had up-to-date schemes of work, planned for their teaching and marked pupils' books, examination results were generally good. Related to this was the question of setting and marking examinations. We found that in general, most schools, did not take this exercise seriously. Only in a few secondary schools did we find Head teachers who insisted on high standards in the internal examinations.

h) Social and Environmental Factors:

So far we have considered some of the school factors that we believe have an effect on the academic achievement of primary and secondary school pupils. In this section, I will discuss briefly social and environmental factors that were brought to my attention in connection with achievement.

The social influence which communities have on schools was cited as one major factor that may have adverse effect on the schools' performance. A former Provincial Education Officer in Western Province (a Member of Parliament at the time of this study) gave examples of communities where illegal smoking of bhang and drinking of "chan-'aa" had affected pupils in those areas.

Another adverse social factor was "magendo" especially on the boarder. These factors contributed not only to low achievement, but also to high drop-out rates in the schools, especially in the primary schools. Table VIII shows the number of pupils who dropped out in the school system in the Province.

i) Other Factors:

There are three factors which were mentioned by many respondents in my study and which do not fall neatly in the categories of factors discussed above. In discussing these factors I would like to quote widely from the 1981 PEO's Annual Report, Central Province, for comparison.

i) The Parents Teacher Associations:

Generally speaking, the PTAs in Western Province were found to be poorly organized and weak. Only a few had initiated and executed development projects related to the construction of classrooms, staff houses etc. The relationship between parents and teachers particularly at primary school was either non-existant or confrontational (except in isolated cases). This

TABLE VIII

DROP-OUT AT PRIMARY SCHOOL LEVEL IN WESTERN PROVINCE
1980 - 1981

CLASS	1980	1981
STD II	27,756	16,541
STD III	6,099	9,397
STD IV	6,316	2,754
STD V	6,723	3,709
STD VI	3,527	1,615
STD VII	13,715	11,05[illegible]

Source: Annual Report, Ministry of Basic Education, Western Province.

is in contrast to the situation in Central Province where the PEO reported:

> "The relationship between Parents Association, school Coomittees and Teachers was smooth throughout the year.....
>
> It was out of such a good relationship that Central Province CPE (and KCE) results were at the top in the country's overall performance."

ii) School Inspection:

I mentioned briefly in an earlier paragraph that headmasters regarded school inspection in Western Province as inadequate. Table IX gives a comparison of the number of schools inspected in 1981 by district in Western Province and in Central Province.

TABLE XI

Primary school Inspection in Western Province and Central Province 1981.

District	Total No.of schools	No.of schools Inspected	% Inspected.
WESTERN			
Busia	263	172	65.4
Bungoma	393	208	52.9
Kakamega	757	520	68.7
CENTRAL			
Nyeri	294	186	63.3
Muranga	333	333	100
Kiambu	317	205	64.7

Source: PEO's Annual Reports 1981 pp.16 and 17 respectively.

The PEOs' comments on these figures underline the importance of inspection in raising achievement. The Central Province PEO observed:

> "Muranga was to be highly congragulated on her total achievement in ensuring that every individual school was inspected during the year and hence such a jump in the CPE

performance in 1981 i.e. from number 8 to 3 in the Republic (the district was first in 1982)".

On the other hand the Western Province PEO lamented:

"Lack of transport continued to be a problem during the year.....

In Busia the number of schools inspected was 65.4% while the number of teachers inspected represented 33%; in Bungoma the figures were 52.9% and 11.9% respectively; and in Kakamega the figures were 68.7% and 31.4% respectively.

The PEO did not say anything about the quality of inspection. From this information we can make one firm conclusion,and that is, there is a high relationship between academic achievement of schools and inspection/ supervision.

iii) Subject Panels:

I found that in those areas where subject panels had been formed to set, moderate and coordinate the

marking of internal examinations, academic achievement was generally high. This was particularly true where such panels worked in close collaboration with the Teachers Advisory Centres in the case of Primary schools. An example of this is the Butere South Division and nearly all divisions in the Central Province.

Possible Cures for the Poor Achievement

Let me start this section by warning the reader that there is no penicilin for the poor academic achievement discussed in the above paragraphs. The discussion of factors affecting achievement give us clues as to what might be done. Let us not forget that success will require careful planning, hard work and patience. Secondly, it should be recognized that the factors I chose for discussion in this study were selected on the basis of their importance and their policy implications. I deliberately chose not to go into multiple regression to determine the extent to which each factor contributed to variability in achievement. This was because of the large audience to which this paper is addressed.

I would suggest the following major points as guides to improving academic achievement in Western Province:

i) Harambee classes attached to Government maintained schools should either be taken over by Government or be run down.

ii) School fees at the secondary school level should be standardised so that long periods of learning time is not lost when students are sent away to look for fees. A relationship between high fees and achievement has not been demonstrated.

iii) The Parent Associations in collaboration with school Committees and school Boards of Governors should organize Harambee projects for school facilities that are in dire demand. With the planned decentralization of Government operation (based at the district level), inequality in the distribution of capital development money will not arise.

iv) School administration both at the Provincial level and in the schools should be tightened. Those lacking in administrative ability or interest should be assigned other duties. There is a need for both field administrators and school administrators to pay attention to academic work

in the schools: teachers' planning and execution of their duties, students homework, inspection and the amount of time allocated to and used for instruction/learning.

v) A solution should be found soon concerning the large proportion of untrained teachers in the Province both at the primary school level and at the secondary school level.

vi) The teacher/pupils ratio in the Province is high. There is a need to post more teachers to the Province to reduce this ratio and bring it in line with the national mean

vii) Transfer of teachers should be minimized to stabilize the teaching staff in all schools in the Province.

viii) School Heads should work closely with the local Chiefs and District Officers to deal with some of the social evils like drinking and smoking bhang that has affected a few schools.

ix) The relationship between the Parents Associations, School Committees/Boards of Governors and teachers should be cultivated and improved. This will depend on the calibre of leadership in the three areas.

x) School inspection and supervision must be stepped up.

xi) Subject Panels for setting mpderating and organizing marking should be set up at divisional levels.

CONCLUSION:

I have shown in this paper that academic achievement in the Western Province of Kenya is poor compared to other Provinces. Factors contributing to this poor performance have been discussed and suggestions for improvement made. The suggestions have been in the form of principles. The procedures to be adopted to satisfy some of the suggestions will vary from school to school, but in some cases it will require policy decisions at the district level, provincial level or at a higher level.

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